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ABSTRACT

This report describes the final status of classroom practice in Texas prekindergarten programs in comparison to initial study findings and findings from a self-study component implemented in 1993 with prekindergarten staffs participating in the study. Findings from the longitudinal component indicated positive trends in academic performance for children who participated in prekindergarten programs. The results of the study showed that students from prekindergarten programs are less likely to be retained, closer to being on grade level in their reading comprehension, and less likely to be referred for special education programs. Former prekindergarten students scored two points higher than nonattendees on the 1994 Texas Assessment of Academic Skills (TAAS) third-grade test in reading and mathematics, and this difference was stronger for students with limited English proficiency. The results of the program evaluation indicate that, with improvements in staff development, teacher evaluation instruments and skills, and training programs to support staffs, the benefits of early education will increase for those students who participate in the prekindergarten programs in Texas. (AP)

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ED 385 358

TEXAS EVALUATION STUDY OF PREKINDERGARTEN PROGRAMS

FINAL REPORT SUMMARY

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TEXAS EVALUATION STUDY OF PREKINDERGARTEN PROGRAMS

FINAL REPORT SUMMARY

Texas Education Agency
Austin, Texas

January 1995

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EXECUTIVE SUMMARY

Over the past decade prekindergarten programs have become a part of public education. This growth reflects the increased awareness of the value of early childhood education. Although early childhood education is important for all children, research suggests that it is particularly important for low-income and educationally disadvantaged children. Texas has responded to the need for early education through the inception of state-funded prekindergarten programs for four-year-old children. Students in prekindergarten are expected to master a specific set of essential elements (Texas Administrative Code, Title 19, Section 75.21). Prekindergarten essential elements focus on the areas of communication, cognition, motor, fine arts, social/emotional, intellectual, aesthetic, and physical development. In 1989 a study of the general state of prekindergarten education in Texas, from both an implementation and outcome point of view, was initiated by the Texas Education Agency.

This report describes the final status of classroom practice in prekindergarten programs in comparison to initial study findings and findings from a self study component implemented in 1993 with prekindergarten staffs participating in the study. It also reports on the progress of a group of students who participated in prekindergarten during the 1989-90 school year in relationship to a comparison group of students who were eligible for prekindergarten but did not attend.

The guidelines established by the National Association for the Education of Young Children (NAEYC) provided the framework for the examination of developmentally appropriate practices in prekindergarten programs. These guidelines were formulated in response to the widespread use of inappropriate formal teaching techniques for young children, and the overemphasis on achievement of narrowly defined academic skills.

During the last two years of this study the developmental quality of prekindergarten classrooms steadily improved. Movement toward developmentally appropriate practice was reflected in class schedules, increased opportunities for child-initiated activities, improved teacher-child interactions, and the creation of early childhood classroom environments. Teachers' beliefs voiced in staff interviews and reflected in actual classroom practices confirm their understanding of children's active construction of learning. The increase in the amount of time allocated to child-initiated activities has provided children with ample opportunities to take an active role in constructing their learning. Prekindergarten classrooms in 1994 are environments where children are playing and learning together in a wide variety of learning centers, talking about what they are doing, eagerly exploring materials, sharing their discoveries with each other and the teachers, and helping each other when they need help.

Redefining their role as "a teacher" in a developmentally appropriate classroom has been challenging. As teachers implemented developmentally appropriate practices in the classrooms, they continued to have difficulties in this area. However, prekindergarten teachers are learning to become facilitators of learning. Their increased participation with children in active play and learning experiences is a strong indication of the implementation of developmentally appropriate practices in prekindergarten classrooms.

Prekindergarten education is making a difference in the lives of children and families in Texas. Findings from the longitudinal component of the prekindergarten evaluation study indicated positive trends in academic performance for children who participated in prekindergarten programs. In 1994, four years after prekindergarten, students from prekindergarten programs were:

- less likely to be retained;
- closer to being on grade level in their reading comprehension based on data reported by teachers; and
- less likely to be referred for special education programs.

Conversely, children who were eligible for prekindergarten, but did not participate, were:

- more likely to be retained;
- below grade level in their reading comprehension; and
- more likely to be referred for special education programs.

The statewide comparisons made of 1994 Texas Assessment of Academic Skills (TAAS) third grade test performance in reading and mathematics between former prekindergarten students and similar students who did not attend prekindergarten showed Normal Curve Equivalent (NCE) scores about two points higher in both reading and mathematics for the former prekindergarten students than for the non-prekindergarten group. Although the differences were in the desired direction, the scores were still lower than the statewide average for third graders in Texas.

Differences were also found between students with limited English proficiency (LEP) who had attended prekindergarten and those who were eligible but did not attend. Students who attended prekindergarten:

- were at or above grade level in oral reading based on data reported by teachers;
- mastered a greater number of mathematics essential elements based on data reported by teachers;
- were more likely to be promoted to the next grade;
- were less likely to be referred for special education programs; and
- were less likely to be placed in special education programs.

In looking at statewide 1994 TAAS third grade test performance for LEP students, the differences between former prekindergarten students and LEP students who did not attend prekindergarten were even more pronounced. NCE scores were about five points higher in both reading and mathematics for former LEP prekindergarten students than for LEP students who did not attend prekindergarten.

The true test of prekindergarten effectiveness is achievement and personal success over time. Although some studies have indicated that student achievement gains fade over time, the benefits of prekindergarten have been documented throughout students' lives in the areas of financial, social, and personal success. In Texas we have already seen the payoffs of prekindergarten education in the academic performance of students who participated in the programs. Statewide comparisons of former prekindergarten students (in 1989-90) and students who were not in prekindergarten on their 1994 TAAS tests showed that former prekindergarten students scored higher than did the nonattenders. This difference was even stronger for students with limited English proficiency. With the improved developmental quality of prekindergarten programs documented in this study, there is every reason to believe that the benefits of early education will increase for those students who participate in the prekindergarten programs in Texas.

FINAL RECOMMENDATIONS

- Provision of staff development to administrators and instructional staff at both the preservice level and inservice level.
- Revision of the state teacher evaluation instrument and process to make it responsive to and accountable for the characteristics that demonstrate developmentally appropriate practices in prekindergarten through early elementary grades.
- Development of reflective strategies and evaluation skills of administrators and instructional staff to guide implementation practices in the classroom.
- Provision of training and support to prekindergarten and early elementary staff in implementing child-centered, teacher-supported, play-based learning curricula.
- Provision of training and support to prekindergarten and elementary staff in implementing the State Board of Education Policy Statement on Early Childhood and Elementary Education.
- Identification of programs that are demonstrating exemplary developmentally appropriate practices to participate in the elementary school mentor network and to provide observation sites for developing programs.
- Participation by prekindergarten, kindergarten, and early childhood teachers in the self-study evaluation process developed within this study.
- Participation in prekindergarten by all children who are eligible for the program.

BACKGROUND

Recognizing the critical importance of early childhood education, in 1986 Texas required districts to offer prekindergarten programs to four-year old children who have limited English proficiency or are from a low-income family. These children are eligible for, but not required to attend, the prekindergarten program. Using the same eligibility criteria as for four-year olds, districts can (but are not required to) offer programs to eligible three-year olds. Increasingly, local school districts have implemented prekindergarten programs. Over 688 Texas school districts are currently providing prekindergarten programs to 103,000 four-year-old children.

In 1989 a five-year evaluation study of prekindergarten for four-year-olds was initiated. The overall purpose of the five-year study was to evaluate effectiveness of prekindergarten programs in Texas for the first time since the statewide inception of such programs in 1986. Two reports summarizing the findings and recommendations from the initial and interim phases of the study were published and are available from the Texas Education Agency's Publication Distribution Office (*Texas Evaluation Study of Prekindergarten Programs: Preliminary Findings*, TEA Publication No. GE2 091 08 and *Texas Evaluation Study of Prekindergarten Programs: Interim Findings*, TEA Publication No. GE3 410 09). This report is a summary of final findings from the study. A comprehensive report of final findings is also available (*Texas Evaluation Study of Prekindergarten Programs: Final Report*, TEA Publication No. GE5 170 02).

WHAT CAN WE LEARN FROM THE STUDY?

The final phase of the study continued to examine the developmental quality of prekindergarten for four-year-old children in Texas. During the first two years of the study, statewide surveys provided a better understanding of broad implementation practices across Texas and parents' perceptions of prekindergarten programs. This final phase describes the final status of prekindergarten classroom practices in contrast to initial findings of the study. A variety of factors such as classroom materials, teacher-child interactions, and/or administrative support, contribute to program effectiveness. To determine or understand program effectiveness, program practices must first be understood. The first two components and the self study component were directed toward a better understanding of program practices.

Understanding how children change is critical to program accountability. The real test of prekindergarten program effectiveness is achievement and personal success in later grades. Program outcomes must be examined over time. The longitudinal component examined the effects of prekindergarten on student performance from prekindergarten through third grade.

Components of the Study

The following four components were included in the study:

1) a **statewide survey** of districts and campuses focusing upon prekindergarten program characteristics, implementation, and parents' perceptions of the programs;

2) a **case study** of ten schools that are providing prekindergarten programs to examine in-depth program implementation in relationship to developmentally appropriate practices;

3) a **self study** in which prekindergarten staffs participating in the case study component self-examined the developmental quality of their classroom practices; and

4) a **longitudinal study** of approximately 2,000 students enrolled in the prekindergarten program during the 1989-90 school year, in relationship to a comparison group of 600 students who were eligible for prekindergarten but did not participate in the program.

The following table provides the timelines for the four study components.

	Year 1 (1989-90)	Year 2 (1990-91)	Year 3 (1991-92)	Year 4 (1992-93)	Year 5 (1993-94)
STATEWIDE SURVEY					
District and Campuses with Pre-K Programs	------*------				
Statewide Parent Survey (500+ districts)	----------	------*------			
CASE STUDY					
(Ten elementary schools) Site Visits and Interviews	----------	------*------	------*------	------*------	------*------
SELF STUDY					
(Case Study Sites) Site Visits, Extensive Observations, Surveys and Interviews	----------	----------	----------	------*------	------*------
LONGITUDINAL STUDY					
(2600 students to third grade) Collect Baseline Data on Pre-K Group	------*------				
Collect Data on Pre-K and Comparison Groups (20 districts)	----------	------*------	------*------	------*------	------*------

CASE STUDY

A case study approach was chosen to describe selected aspects of the developmental quality of prekindergarten programs. The primary focus of the case study over the four years of the study was to describe the developmental quality of the programs. During the last two years of the study, staff development and technical assistance were provided to local program staffs in the self-examination of the developmental quality of their sites.

During the initial years of the case study, data were collected to describe the quality of prekindergarten programs in relationship to developmentally appropriate practices. The primary purpose during the last year of the study was to evaluate the final status of the developmental quality of the prekindergarten programs in comparison to initial study findings. Final site visits were made to classrooms that participated in the initial phase of the study, and data were collected through:

- observations of prekindergarten classrooms;
- observations of randomly selected children participating in prekindergarten classrooms;
- questionnaires to district staff and administrators; and
- interviews with administrators, prekindergarten staff, and prekindergarten children.

SELF STUDY

In 1993 and 1994 the study design was expanded to include a self study component whereby the prekindergarten staffs self-examined their own classroom practices in relationship to developmentally appropriate practices. Prekindergarten staffs collected some data that were also being collected in the case study by the observation team. For the years 1993 and 1994, the prekindergarten staffs qualitatively and quantitatively studied the contexts of (1) environment and materials, (2) learning centers, (3) class schedules, and (4) adult-child interactions. The self study was developed to enhance prekindergarten staff's awareness of the quality of their early childhood practices and to facilitate their use of the study's results.

LONGITUDINAL STUDY

A longitudinal study of approximately 2,000 students who were enrolled in prekindergarten in 20 school districts in Texas was initiated in spring 1990 with the collection of baseline data. The following school year, a comparison group of approximately 600 kindergarten students who had been eligible for prekindergarten but had not enrolled in the program was randomly selected from the same 20 school districts participating in the longitudinal component. The progress of both groups of students was followed annually through a questionnaire completed by the students' classroom teachers or elementary counselors. Students' TAAS scores were also compared for the 1993-94 school year. This report presents information on these students through the 1993-94 school year. Table 1 provides demographic characteristics and outcome differences for the prekindergarten students and comparison group students as of the 1993-94 school year.

TABLE 1
Student Demographic Characteristics and Outcome Differences

CHARACTERISTIC:	COMPARISON GROUP Percent of Students		PREKINDERGARTEN GROUP Percent of Students	
	ALL	LEP only	ALL	LEP only
Ethnicity:				
Native American	0	0	0.3	0.3
Asian	2.9	3.5	3.5	1.6
African American	23.3	4.7	25.8	3.5
Hispanic	57.1	88.2	62.3	93.3
White	16.7	3.5	8.1	1.3
Gender:				
Male	49.0	45.9	46.2	46.9
Female	51.0	54.1	53.8	53.1
Free/Reduced-Price Lunch	86.1	95.3	86.1	95.2
Limited English Proficient	35.6		33.3	
Free/Reduced Lunch & Limited English Proficient	34.0		31.9	
Language:				
Spanish	35.8	82.1	33.9	85.6
English	62.1	14.3	63.7	12.5
Other	2.1	3.6	2.4	1.9
Grade:				
Third	85.5	82.4	89.7	87.5
Second	13.3	16.5	10.1	12.1
Special education self-contained classroom	0.8	1.2	0	0
Other	0.4	0	0.2	0.3
Outcomes:				
Referral to special education programs	*17.5	*17.9	*11.4	*8.4
Placed in special education programs	12.6	*12.9	8.5	*4.5
Reading Comprehension:				
Reading at grade level	*50.4	31.8	*57.0	38.9
Reading above grade level	*10.9	7.1	*13.4	10.7
Oral Reading:				
Reading at grade level	55.2	*55.3	61.6	*66.5
Reading above grade level	13.8	*8.2	14.1	*10.3
Promotion to next grade level	*91.5	*91.7	*95.3	*95.2

*Denotes statistically significant difference.

DEVELOPMENTALLY APPROPRIATE PRACTICES

The guidelines established by the National Association for the Education of Young Children (NAEYC) provided a framework for examining developmentally appropriate practices in prekindergarten programs. Developmentally appropriate practices provide a useful definition for describing what is happening in classrooms and for looking at the effects of classroom practices on young children's achievement and classroom behavior. These guidelines focus more on the how than the what of teaching. The NAEYC guidelines were formulated in response to the widespread use of inappropriate formal teaching techniques for young children and the overemphasis on achievement of narrowly defined academic skills, what has come to be called downward escalation of curriculum.

As defined by NAEYC, the concept of developmentally appropriate is comprised of two major dimensions: age appropriateness and individual appropriateness. The first dimension entails using knowledge of the stages of child development in implementing early educational programs. For example, four-year-olds require active involvement in their learning. An environment is needed that provides hands-on opportunities with materials rather than one that requires young children to sit still for long periods of time doing worksheets. Individual appropriateness refers to the consideration of children's individual interests, strengths, and experiences. To specifically address the diverse backgrounds of Texas prekindergarten children, a third dimension was added: language and cultural appropriateness. This dimension recognizes the importance of using the child's primary language in the classroom and providing experiences that reflect the child's culture. For the purposes of this study the term "developmentally appropriate practices" reflected all three dimensions.

Developmentally appropriate programs are structured according to research on how young children learn. Curriculum and instruction that are language-rich, hands-on, and based upon real-world learning experiences are crucial elements of developmentally appropriate programs. Classrooms with teachers who employ developmentally appropriate practices look like this:

- Children are engaged in active, not passive, learning experiences, many of which are child initiated, based on activities and materials that are real, concrete, and relevant to the lives of young children.
- Classrooms contain materials and activities for a wide range of developmental interests and abilities.
- Child-initiated, child-directed, teacher-supported play is the most natural way for young children to learn and is an integral part of the program day.
- Children develop language and communication skills by using language to express needs, insights, excitement, and to solve problems through interaction with adults and peers.
- Children spend most of the time working individually or in small groups.
- Parents and others from the community are involved with the program.

How did classroom practices reflect the philosophy of developmentally appropriate practices?

NAEYC Criteria

Decisions about appropriate practices derive from a particular belief system or theoretical framework about how children learn and develop.

The classroom schedule is driven by beliefs about how children learn. Schedules should be flexible to take advantage of spontaneous, impromptu experiences. Children should never be rushed. Children of all ages need uninterrupted periods of time to become involved, investigate, select, and persist at activities. The younger the child, the more the activity should be child-initiated and individual or small group. The amount of time in staff-initiated and large group activities should be minimized for all children younger than age six.

Findings

- Of the 14 classrooms observed in 1992 and 1994, there was an increase in the number of classrooms that demonstrated a developmentally appropriate climate. In 1992 eight classrooms (57%) were considered to have a developmentally appropriate climate; in 1994 this number increased to 12 classrooms (86%).
- In the final year of the study most teachers participating in the case study recognized the importance of child-initiated activities in prekindergarten programs.
- Overall the average percent of time for child-initiated activities increased across the years of the study.
- In 1992, on average, a little more than one-fourth of the prekindergarten session was spent in child-initiated activities. In 1994 the amount of time spent in child-initiated activities increased, on average, to almost half of the daily session in half-day programs.

Final Recommendations

- Continue to provide opportunities for children to make choices across the schedule throughout the day and participate in self-initiated activities.
- Continue to provide staff development on management techniques and schedule design to support more child-initiated activities.
- Continue to provide opportunities to have staff visit and observe child-centered model programs.
- Revise the state teacher evaluation instrument and process to be responsive to and accountable for developmentally appropriate schedules in prekindergarten through early elementary grades.

What methods did prekindergarten teachers use to facilitate children's learning in prekindergarten programs?

NAEYC CRITERIA

Teachers of young children are like guides or facilitators. Teachers do not verbally instruct or lecture young children. Children acquire language and communication skills by using and hearing language. Language and communication skills grow out of a desire to use language to express needs, insights, excitement, and to solve problems. Children do not use language or any other concept by being quiet and listening to an adult. Listening experiences, when they are meaningful, enrich language, but are not the basis of language learning. Therefore, adults must provide many varied opportunities for children to communicate.

Teachers observe to see what children understand before sharing more information. Teachers allow young children to select their own activities. Teachers of young children move among small groups and individuals to facilitate the children's involvement with materials by asking genuine questions, offering suggestions, and adding more complex materials or ideas to the situation. Teachers accept that there is more than one right answer. Teachers' interactions are responsive to individual differences in ability and interest. Teachers recognize that children learn best from self-directed problem solving and experimentation.

FINDINGS

- Maintenance was the primary facilitating method demonstrated by teachers in both 1993 and 1994. Maintenance includes behaviors such as putting materials away and handing out materials to children.
- Teachers in the case study demonstrated increased participation in the children's activities. The trend to participate more with the children in their self-initiated activities is a move toward improving the quality of early childhood practices in the prekindergarten classrooms in this study.

FINAL RECOMMENDATIONS

- Continue to provide staff development to prekindergarten staffs on methods to facilitate child-initiated learning.
- Continue to support staffs in understanding and implementing the role of a facilitator of learning.
- Revise the state teacher evaluation process to include evaluation of methods that facilitate child-initiated learning.

How are prekindergarten classrooms fostering academic development of limited English proficient students?

NAEYC CRITERIA

Curriculum respects and supports individual, cultural, and linguistic diversity.

Multicultural and nonsexist experiences, materials, and equipment should be provided for children of all ages.

Early childhood educators are sensitive to the culture and language of the children they serve. High expectations are held for all children. Early childhood educators strive to insure that diversity is evidenced in all classrooms. Instruction in the child's primary language should be provided whenever possible.

If academic development of minority students is the goal, then students must be encouraged to acquire a conceptual foundation in their native language to facilitate the acquisition of English academic skills.

FINDINGS

- Over the years of the study, the quality of culturally and linguistically relevant materials improved.
- In the classrooms using a bilingual approach to special language instruction, English has continued to be used as the language of instruction.
- By 1994 the amount of English spoken by both teachers and children had increased.

FINAL RECOMMENDATIONS

- Offer opportunities for staff and parents to collectively develop strategies, activities, and resources to further support cultural diversity.
- Significantly increase the quantity of culturally-reflective materials and the quality and quantity of linguistically-reflective materials in the classroom.
- Provide staff development to instructional staff and administrators in first and second language instructional techniques and strategies.
- Increase use of the students' primary language in classrooms using a bilingual approach to special language instruction.

What is the prekindergarten environment like?

NAEYC Criteria

Children develop understanding of concepts about themselves, others, and the world around them through observing, interacting with people and real objects, and seeking solutions to concrete problems. The physical setting is arranged for preschool children by creating a variety of learning areas and equipping each area with materials. Learning activities and materials should be concrete, real, and relevant to the lives of young children. Teachers prepare the environment for children to learn through active exploration and interaction with materials.

A common practice in early childhood classrooms for providing the above experiences is the establishment of learning centers. Typically, children are allowed to choose the learning center in which they will participate.

Findings

- In 1992, for the most part, the classroom environments looked like primary classrooms instead of environments that are conducive to children learning through exploration and play. In 1994, the majority of the classrooms were clearly learning environments where young children could learn through play and exploration.
- The developmental quality of environment and materials in the classrooms changed most in the areas of culturally-reflective materials, inside space, personal space, and child-made materials.
- The developmental quantity of environment and materials in classrooms changed most in the areas of child-made materials, inside space, and commercial materials.
- From 1992 to 1994 the prekindergarten staffs made considerable changes in the availability and accessibility of learning centers in prekindergarten classrooms.
- Overall, there was an increase in the number of NAEYC-recommended centers available.

Final Recommendation

- Increase participation in prekindergarten to all children who are eligible for the program.

Is play being used to facilitate learning in prekindergarten programs?

NAEYC Criteria

Children's play is a primary vehicle for and indicator of their mental growth. In addition to its role in cognitive development, play also serves important functions in children's physical, emotional, and social development. Therefore, child-initiated, child-directed, teacher-supported play is an essential component of developmentally appropriate practice.

It is a central vehicle through which children construct ideas and come to understand their experience. Through the process of play, children can learn to think creatively, take risks, and solve problems. Children need to be in charge of their own play—they need time, space, and props that encourage them to transform their past experiences creatively through the play process.

Findings

- Play-based learning primarily occurred during child-initiated activities in prekindergarten classrooms. Children played almost 100 percent of the time observed in child-initiated activities.
- Opportunities for play-based learning increased in prekindergarten programs. Observations conducted during teacher-directed activities found that children engaged in play only about 25 percent of the time in 1993 and about 40 percent of the time in 1994.
- Children engaged in more complex cognitive learning behaviors when they initiated their own activities than in activities initiated by the classroom teachers.
- During teacher-directed times children primarily displayed functional and imitative behaviors.

Final Recommendations

- Continue to provide staff development to administrators, teachers, and instructional assistants about the critical value of play in the learning of young children.
- Continue to provide staff development to administrators, teachers, and instructional assistants about the practical implementation of play-based learning in early childhood programs.
- Continue to provide staff development to administrators, teachers, and instructional assistants on the theoretical dimensions of cognitive development in children.
- Continue to provide staff development to prekindergarten staffs on observation and intervention strategies to support young children's cognitive development through child-initiated play.
- Provide opportunities for staffs to visit high quality play-based learning classrooms.
- Provide time and support to prekindergarten staffs to examine the purpose, productivity, and amount of activities that are nonplay.
- Revise the state teacher evaluation instrument and process to include developmentally appropriate instructional strategies of play-based learning in early childhood classes.
- Include elementary teachers in staff development so that developmentally appropriate practices, such as play-based learning, can be expanded into the early elementary grades.
- Provide parent training for parents to become informed about developmentally appropriate practices for young children.

What is the relationship between parents and prekindergarten programs?

NAEYC Criteria

In high quality early childhood programs, families as well as children benefit. Parents and other family members are encouraged to be involved in the program in various ways. It is important that developmentally appropriate practices are available across early childhood programs, birth through eight. An important part of early childhood education is the continuity between programs as children move from one program to another.

Findings

- According to the prekindergarten staffs, the primary involvement parents had in the prekindergarten program was helping at the school or in the classroom.
- Staffs reported that parents were provided information about early childhood practices, parenting, and child development on an infrequent and informal basis.
- Teachers who participated in the longitudinal study reported more parent-teacher conferences and informal contacts with parents of children who had attended prekindergarten than with parents of children who were eligible but did not attend prekindergarten.

Final Recommendations

- Provide staff development to prekindergarten and elementary staffs on the latest research on parent participation and the process of developing family-school partnerships.
- Provide training to parents on early childhood practices and family-school partnership with support for child care.
- Revise the state teacher evaluation to include assessment of teachers' involvement with parents/families.

How do educational outcomes compare for children who participated in prekindergarten in relationship to children who were eligible for the program but did not participate?

In the spring of 1990 approximately 2,000 prekindergarten students were identified, and another 600 students were identified the following year as a comparison group, to participate in a longitudinal study designed to evaluate the impact of prekindergarten programs with regard to the regular education programs. Students in the comparison group had been eligible for prekindergarten but had not participated in the program. The progress of both groups was followed annually through a yearly questionnaire completed by the students' teachers or elementary school counselors. The prekindergarten program, as with other grade levels, has essential elements that students are expected to master. Prekindergarten essential elements focus on the areas of communication, cognition, motor, fine arts, social/emotional, intellectual, aesthetic, and physical development. Final findings on these students' education outcomes in the last two years of the study are presented below.

Within the remainder of this report all differences that are reported between students who participated in prekindergarten and students who were eligible for prekindergarten, but did not participate, meet the criteria for statistical significance.

Final Findings

Due to attrition the sample was reduced to 943 students in the prekindergarten group and 241 in the comparison group. Student demographic characteristics between the two groups in 1993-94 were similar (see Table 1 on page 10). However, the percentage of white students in the comparison group was significantly higher than that of the prekindergarten group. Therefore, all statistical analyses were adjusted for differences in ethnicity.

In 1993, three years after prekindergarten, students from prekindergarten programs:

- mastered more essential elements in mathematics, science, social studies, fine arts, and health, based on data reported by teachers;
- were less likely to be retained;
- were closer to being on grade level in mathematics, according to teachers; and
- were less likely to be referred for special education programs.

In 1994, four years after prekindergarten, students from prekindergarten programs were:

- less likely to be retained;
- closer to being on grade level in their reading comprehension; and
- less likely to be referred for special education programs.

Conversely, in the final year of the study children who were eligible for prekindergarten, but did not participate were:

- more likely to be retained;
- below grade level in their reading comprehension; and
- more likely to be referred to special education programs.

The statewide comparisons made of 1994 Texas Assessment of Academic Skills (TAAS) third grade test performance in reading and mathematics between former prekindergarten students and similar students who did not attend prekindergarten showed Normal Curve Equivalent (NCE) scores about two points higher in both reading and mathematics for the former prekindergarten students than for the non-prekindergarten group. Although the differences were in the desired direction, the scores were still lower than the statewide average for third graders in Texas.

Differences were also found between students with limited English proficiency (LEP) who had attended prekindergarten and those who were eligible but did not attend. Students who attended prekindergarten:

- were at or above grade level in oral reading, based on data reported by teachers;
- mastered a greater number of mathematics essential elements according to teachers;
- were more likely to be promoted to the next grade;
- were less likely to be referred for special education programs; and
- were less likely to be placed in special education programs.

In looking at statewide 1994 TAAS third grade test performance for LEP students, the differences between former prekindergarten students and LEP students who did not attend prekindergarten were even more pronounced. NCE scores were about five points higher in both reading and mathematics for former LEP prekindergarten students than for LEP students who did not attend prekindergarten.

FINAL RECOMMENDATIONS

- Continue to construct the classrooms to reflect the children in them so that, upon entering the classroom, one is aware of who the children are collectively: their cultures, their languages, their interests, and their talents.

- Continue to provide opportunities for children to develop and display their own work and products.

- Continue to provide significantly more quality and quantity of linguistically and culturally-reflective materials.

- Continue to provide staff development to instructional staff in learning how to:
  - allow children to use centers in unlimited and independent ways;
  - observe children's learning in center activities;
  - interact and support child discovery and exploration;
  - expand centers beyond the classroom; and
  - develop centers based on children's interests.

- Expand centers to include: construction, computers, dramatic play, music/movement, and science/living.

- Provide significantly more environmental/living materials, such as plants, live animals, shells, etc.

- Continue to support staff in self study and self-evaluation in increasing the quality and quantity of the learning environment.

COMMENTS AND CONCLUSIONS

The developmental quality of prekindergarten programs has continuously improved over the five years of the evaluation study of prekindergarten programs in Texas. Findings from the statewide surveys, the case study, the self study, and reports from the staff have reflected the movement toward developmentally appropriate prekindergarten programs in daily class schedules, child-initiated activities, teacher-child interactions, classroom environments, and parent satisfaction and involvement. Teachers' beliefs voiced in staff interviews and reflected in actual classroom practices, confirm their understanding of children's active construction of learning. The increase in the amount of time allocated to child-initiated activities has provided children with ample opportunities to take an active role in constructing their learning. Prekindergarten classrooms in 1994 are environments where children are playing and learning together in a wide variety of learning centers, talking about what they are doing, eagerly exploring materials, sharing their discoveries with each other and the teachers, and helping each other when they need help.

The methods teachers used to facilitate children's learning changed over the years of the study. Although teachers still did much of the talking in prekindergarten classrooms, they have made significant changes in the quality of language facilitation that occurs in their classrooms. Children are no longer expected to develop language by responding to teachers' requests and directions. Prekindergarten classrooms have become noisy environments because children are busily engaged in talking with their peers and teachers.

Redefining their role as "a teacher" in a developmentally appropriate classroom has been challenging. As teachers implemented developmentally appropriate practices in the classrooms, they continued to have difficulties in this area. However, prekindergarten teachers are learning to become facilitators of learning. Their increased participation with children in active play and learning experiences is a strong indication of the implementation of developmentally appropriate practices in prekindergarten classrooms.

> These tools (self-study evaluation instruments) helped us to see discrepancies between what we think we are doing and what we are actually accomplishing. It empowers teachers to implement the change process at their own pace. It allows for risk-taking on the part of the teacher.

Prekindergarten education is making a difference in the lives of children and families in Texas. Findings from the longitudinal component of the prekindergarten evaluation study indicated positive trends in academic performance for children who participated in prekindergarten programs. In 1994, four years after prekindergarten, students from prekindergarten programs were:

- less likely to be retained;
- closer to being on grade level in their reading comprehension; and
- less likely to be referred for special education programs.

Conversely, children who were eligible for prekindergarten, but did not participate were:

- more likely to be retained;
- below grade level in their reading comprehension; and
- more likely to be referred to special education programs.

The true test of prekindergarten effectiveness is achievement and personal success over time. Although some studies have indicated that student achievement gains fade over time, the benefits of prekindergarten have been documented throughout students' lives in the areas of financial, social, and personal success. In Texas we have already seen the payoffs of prekindergarten education in the academic performance of students who participated in the prekindergarten program. With the improved developmental quality of prekindergarten programs documented in this study, there is every reason to believe that the benefits of early education will increase for those students who participate in the prekindergarten programs in Texas.

FINAL RECOMMENDATIONS

- Provision of staff development to administrators and instructional staff at both the preservice level and inservice level.

- Revision of the state teacher evaluation instrument and process to make it responsive to and accountable for the characteristics that demonstrate developmentally appropriate practices in prekindergarten through early elementary grades.

- Development of reflective strategies and evaluation skills of administrators and instructional staff to guide implementation practices in the classroom.

- Provision of training and support to prekindergarten and early elementary staff in implementing child-centered, teacher-supported, play-based learning curricula.

- Provision of training and support to prekindergarten and elementary staff in implementing the State Board of Education Policy Statement on Early Childhood and Elementary Education.

- Identification of programs that are demonstrating exemplary developmentally appropriate practices to participate in the elementary school mentor network and to provide observation sites for developing programs.

- Participation by prekindergarten, kindergarten, and early childhood teachers in the self-study evaluation process developed within this study.

- Participation in prekindergarten by all children who are eligible for the program.

Compliance Statement

TITLE VI, CIVIL RIGHTS ACT OF 1964; THE MODIFIED COURT ORDER, CIVIL ACTION 5281, FEDERAL DISTRICT COURT, EASTERN DISTRICT OF TEXAS, TYLER DIVISION

Reviews of local education agencies pertaining to compliance with Title VI Civil Rights Act of 1964 and with specific requirements of the Modified Court Order, Civil Action No. 5281, Federal District Court, Eastern District of Texas, Tyler Division are conducted periodically by staff representatives of the Texas Education Agency. These reviews cover at least the following policies and practices:

(1) acceptance policies on student transfers from other school districts;

(2) operation of school bus routes or runs on a nonsegregated basis;

(3) nondiscrimination in extracurricular activities and the use of school facilities;

(4) nondiscriminatory practices in the hiring, assigning, promoting, paying, demoting, reassigning, or dismissing of faculty and staff members who work with children;

(5) enrollment and assignment of students without discrimination on the basis of race, color, or national origin;

(6) nondiscriminatory practices relating to the use of a student's first language; and

(7) evidence of published procedures for hearing complaints and grievances.

In addition to conducting reviews, the Texas Education Agency staff representatives check complaints of discrimination made by a citizen or citizens residing in a school district where it is alleged discriminatory practices have occurred or are occurring.

Where a violation of Title VI of the Civil Rights Act is found, the findings are reported to the Office for Civil Rights, U.S. Department of Education.

If there is a direct violation of the Court Order in Civil Action No. 5281 that cannot be cleared through negotiation, the sanctions required by the Court Order are applied.

TITLE VII, CIVIL RIGHTS ACT OF 1964 AS AMENDED; EXECUTIVE ORDERS 11246 AND 11375; TITLE IX, EDUCATION AMENDMENTS; REHABILITATION ACT OF 1973 AS AMENDED; 1974 AMENDMENTS TO THE WAGE-HOUR LAW EXPANDING THE AGE DISCRIMINATION IN EMPLOYMENT ACT OF 1967; VIETNAM ERA VETERANS READJUSTMENT ASSISTANCE ACT OF 1972 AS AMENDED; AMERICAN DISABILITIES ACT OF 1990; AND THE CIVIL RIGHTS ACT OF 1991.

The Texas Education Agency shall comply fully with the nondiscrimination provisions of all federal and state laws and regulations by assuring that no person shall be excluded from consideration for recruitment, selection, appointment, training, promotion, retention, or any other personnel action, or be denied any benefits or participation in any educational programs or activities which it operates on the grounds of race, religion, color, national origin, sex, disability, age, or veteran status (except where age, sex, or disability constitutes a bona fide occupational qualification necessary to proper and efficient administration). The Texas Education Agency is an Equal Employment Opportunity/Affirmative Action employer.

Texas Education Agency
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